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U.S. BICENTENNIAL FINANCIAL ANALYSIS

Report to

1975 FREEDOM FAIR OF BOSTON, INC.

August 27, 1965



Prepared by:

Arthur D. Little, Inc.  
Boston Redevelopment Authority



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## I. INTRODUCTION

This report contains a preliminary forecast of costs and revenues for the 1975 Bicentennial Celebration in Boston under the current "Thompson Island plan."

In general, cost items were developed by the Boston Redevelopment Authority (BRA) and revenue by Arthur D. Little, Inc. (ADL). However, staff of the two organizations have worked together closely to assist each other and to ensure mutual understanding of definitions and basic assumptions.

This kind of analysis does not lend itself to summation in one master operating statement since many separate agencies participate in various combinations of costs and revenue. Further, some investments such as those of industrial exhibitors and the Federal Government cannot and need not be justified in terms of direct revenues. Also city and state investment should be evaluated in terms of long-term as well as immediate return.

Therefore, immediately following the summary we have listed the major items of cost and revenue without relating the two. There follows a regrouping of these items as appropriate under each participating agency. Here the position of each agency is evaluated in terms of revenues and expenditures, and the sources of data are explained.

Finally, the appendix contains supporting and related data: probable timetable, attendance, employment and type of fair.

There are several cost and revenue variables or possibilities that are not vital to this report but that merit discussion. They are illustrative of the need for flexibility and imagination in further planning. Since they may contribute to the formulation of campaigns to enlist community support we would like to discuss these variables with members of the Freedom Fair Corporation.





## II. SUMMARY

### A. CONCLUSION

We find the current plan for the U.S. Bicentennial in Boston financially feasible. In fact, we consider it an exciting and unique opportunity to create tremendous permanent value and stimulate the local and regional economy without placing any major net financial burden on local or state government and taxpayers. It is, therefore, in our opinion a plan to be pursued with maximum effort.

### B. EVALUATION OF DATA

The forecasts and estimates made in this report are of a preliminary nature and do not result from detailed engineering studies, specific architectural plans, definite commitments, funds, etc. However, they have been made on the basis of ADL and BRA staff experience, the records of prior World's Fairs, and, where necessary, the support of other appropriately knowledgeable persons in the Boston community.

Also, while we are confident that most significant necessary costs have been included, we are equally sure that other cost and revenue items will appear as plans develop further.

Since we have, therefore, been dealing with fairly general estimates we have elected to take a conservative position in preparing this report--particularly in forecasting revenue. Conservatism is also highly appropriate in view of the decision that must now be made by the Freedom Fair Corporation, City of Boston officials, and other potential supporters of the plan for 1975.

For example, we have not placed any dollar value on Federal participation, other than a U.S. pavilion and some support through the Corps of Engineers, or on State participation except through M.D.C. support. This is conservatism in the extreme. However, we hoped to find the plan feasible without entering the labyrinth of attitudes, possibilities and guesses of various Federal and State departments and committees.



### III. SITE DEVELOPMENT COSTS

<u>Description</u>	<u>Responsible Agency</u>	<u>Cost</u>
Purchase Thompson Island	Authority*	\$1,000,000
Bulkhead - East Side	Authority	347,000
Fill 196 Acres - to 17' Elevation	Authority	5,045,000
Breakwater - East Side - 3800'	Corps Engineers	507,000
Dredge Marina and Channel	Corps Engineers	500,000
9' Mean Low Water	Authority	500,000
Road - 100' Right of Way - E. Dorchester Street to Island Includes Utilities	M.D.C.	5,950,000
Road - On Island - Includes Utilities	Authority	6,000,000
MBTA Access Line and Equipment	MBTA	7-10,000,000
Marina Dock Facility	Authority	500,000
Landscaping, Lagoons, Plazas	Fair Corporation	4,000,000
Amphitheatre	Fair Corporation	1,000,000
Administration and Support Buildings	Fair Corporation	2,800,000
Foreign Pavilion Buildings	Fair Corporation	2,500,000
Entrance and Toll Facilities	Fair Corporation	1,000,000
Dam and Locks - Columbia Point to Thompson Island - and road- way on dam (not necessary for Fair)	M.D.C.-Federal Government	20,000,000

\* See explanation - Section VII-A



IV. DIRECT REVENUE

<u>Description</u>	<u>Agency</u>	<u>Revenue</u>
Admissions (20 million at \$1.50)	Fair Corporation	\$30,000,000
Exhibit Space Rental	Fair Corporation	6,000,000
Concession Agreements	Fair Corporation	5,000,000
Fair-Operated Exhibits	Fair Corporation	4,000,000
Fees, Royalties and Other Income	Fair Corporation	2,000,000
Sale of Foreign Pavilion Buildings*	Fair Corporation	2,500,000
Sale of 200 Acres for Development *	Authority	17,400,000

\* After 1975



V.     INDIRECT REVENUE

<u>Description</u>	<u>Agency</u>	<u>Revenue</u>
Excise or use taxes on visitor spending	State/Local	\$15,750,000
Corporate tax on profits from visitor spending	State	(not estimated see Sect. VII-G
Personal income tax - payrolls resulting from visitor spending	State	(not estimated see Sect. VII-G
Annual contribution to "fixed" city costs, from property tax and other local revenue sources- by 1980	Boston Quincy	\$ 3,000,000 (not estimated, but probably over \$1 million)





## VI. EXHIBITOR INVESTMENT

### TOTAL INVESTMENT IN PAVILIONS AND LANDSCAPING

Federal Government	\$ 7,000,000
States	9,000,000
Industry	39,600,000
Amusement Concessions	(not estimated)
	<u>\$ 55,600,000</u>

### FEDERAL GOVERNMENT

In the site plan we have allocated 11 acres for a Federal exhibit. (The Science Center in Seattle occupies nearly 8 acres.) It is almost certain that this will be a permanent structure; and, therefore, during and after the Bicentennial this building may fulfill part of the requirements (such as for a main reception or thematic area during 1975) that would otherwise have to be allocated as costs to other agencies.

This space would be ample for a 230,000 square foot building. At a cost of \$30 per foot for finished construction (including utilities and landscaping) it would mean a \$7 million investment.

Of the \$10 million spent by the Federal Government in Seattle, \$4 million was for the building and landscaping and the rest for exhibits and administration. In view of the nature of the 1975 celebration we would expect a much greater Congressional appropriation and consider a \$7 million building and landscaping project reasonable.

### STATES

We expect that all states will want to participate in the Bicentennial and have allowed for an average building of 6,000 square feet on 10,000 foot plots---total land of 12 acres. This is a small plot and building for some states compared with past World's Fair experience. However, there would be more land available if needed; and we chose to compute a value of construction that would be almost certain to materialize.

These 50 buildings would total 300,000 square feet and about \$9 million in construction and landscaping.

We have not forecast any income from rental of this land since such income is possible but not assured. Neither have we assumed any permanent use for the pavilions erected by states. This may prove overly conservative since it seems to us quite likely that some states will find appealing ways of participating through the erection of permanent facilities.



## INDUSTRY

Although more land is available, we have allocated 50 acres for industrial exhibits. We have derived this in two ways. First, it means rental of 50 average-sized pavilion plots of about 40,000 square feet. This is far below the usual number of World's Fair industrial exhibitors (except Seattle where the total size of 74 acres was the limiting factor). Thus we have taken into consideration the current negative trend in business attitude towards World's Fair pavilions. On the other hand this event in 1975 will be the major U.S. commemorative celebration of the century, and we are confident that there will be demand for 50 acres of industrial exhibits.

Second, the 50 acres of industrial exhibits would keep the overall site plan in very satisfactory proportion.

We estimate 30 acres of buildings and the rest for access and landscaping. At \$30 per square foot for buildings the investment would be \$39,600,000 for finished buildings and landscaping.

## AMUSEMENTS

There is ample land available for amusements, and certainly there must be a wide variety of facilities in 1975 to give balance to the site's overall visitor appeal. However, while income from amusement concessions of past events is readily available, we have no data on construction investment by the concessionaires. This is of little consequence at the moment since it will be but a small fraction of total investment from which likely tax revenues are to be measured.

It may prove advisable to forecast this element of construction at a later date. We would therefore like to record two observations now. First, the community that is developed on Thompson Island plus surrounding communities would support some permanent amusement facilities of regional appeal. This should be borne in mind in the overall site plan and in the selection of concessionaires for the 1975 operating period.

Second, the managing corporation may find it advantageous to erect and operate a number of permanent entertainment facilities that can subsequently be sold to public or private organizations.



## VII. PARTICIPATING AGENCIES

### A. AUTHORITY

There probably should be a separate organization to acquire and develop land, turn it over to the "Fair Corporation" for management of building construction and 1975 operations, and then dispose of the property. Conceivably this role could be assumed by the Cities of Boston and Quincy but might be handled more readily by a separate authority through revenue bonds. We have presented the major revenue and cost aspects as though the cities were constrained by debt limit and thus able to assume only a limited role in financing.

#### Revenue

Sale of 200 acres for residential development	\$17,400,000
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#### Costs

Purchase Thompson Island	\$1,000,000	
Bulkhead	347,000	
Fill - 196 acres	5,045,000	
Dredge marina (50% of cost)	500,000	
Road on island	6,000,000	
Arrival and marina dock facilities	1,000,000	
Engineering studies	(See VII-C)	
General and administrative expense	"	
Interest (approximately)	<u>3,500,000</u>	\$17,392,000

The above revenue is derived from the sale of 200 acres for residential development -- the amount of property provided for this use in the general site plan. The remainder of this peninsula (including new land) constitutes ample provision for government, commercial, general access and recreation use. A forecast of \$2.00 per foot market value for the residential property is considered reasonable by A.D.L. and some outside sources in banking and real estate in Boston. The principal underlying assumptions are automobile, water and rapid transit access, the availability of utilities, and at least 50% of the land being able to support medium-rise apartment buildings of 6-8 stories. All of these assumptions are reasonable.

Estimating the cost of purchasing Thompson Island has been difficult. Real estate developers point out that some islands have been offered for sale unsuccessfully in the past. An auction might bring no serious bids at all, or might bring \$50,000 to \$200,000. These are purely guesses. We elected to try to view the question from Thompson Academy's standpoint even though no direct contact could be made for this purpose. The most recent (1955) City of Boston valuation of the property is:



Land (6,836,900 feet)	-	\$ 683,900
Buildings*	-	<u>291,000</u>
Total		\$ 974,900

\* About two-thirds brick construction

There is no reason to assume any particular net change in this valuation since 1955. A few building additions have been made but all should probably show some depreciation. Nothing has occurred by way of access, utilities, etc. to enhance the land value. We have therefore estimated a purchase price of \$1,000,000 -- approximately the "book value" of the property. This estimate has no relation to market value but it may be the amount required to obtain the property quickly. We would guess that Thompson Academy would consider such an offer a truly unique opportunity.

The bulkhead, fill, dredging and road costs are preliminary estimates by the B.R.A. It should be noted that this road on the island is necessary to provide automobile access around the area in use during 1975. It provides for the normal utilities -- water, sewage system, lighting, fire/police alarm, and traffic control.

According to several experienced respondents in the Boston area a small temporary dock could probably be built for \$125,000 and a permanent one for \$250,000. The latter would be durable but neither comfortably large nor particularly attractive. We have doubled the cost therefore and allowed \$500,000 each for an arrival dock facility on the southwest corner of the island and a marina facility on the southeast corner.

Engineering studies and the authority's general and administrative expenses are discussed in Section VII-C.

The total cost of interest of \$3.5 million is based on a 4% rate, a debt accumulation according to the approximate timetable shown in Appendix A, and sale of property during three years following the "fair".





B. BICENTENNIAL MANAGING CORPORATION (FAIR CORP.)

Revenue

Admissions	\$30,000,000
Exhibit Space Rent	6,000,000
Concessions	5,000,000
Fair-operated attractions	4,000,000
Fees, royalties and other income	2,000,000
Sale of foreign pavilion buildings	<u>2,500,000</u>
Total	\$49,500,000

Costs

Administration and operations	\$32,000,000
Construction:	
Foreign pavilions	\$2,500,000
Landscape, lagoons, etc.	5,000,000
Admin. & support buildings	2,800,000
Entrance and toll facilities	1,000,000
Amphitheater	<u>1,000,000</u>
	12,300,000
Interest	<u>5,000,000</u>
Total	\$49,300,000

Revenue

We have forecast paid attendance of at least 20 million persons. We have then applied an average admission price of \$1.50, about equal to Seattle's. New York's higher average charge has been cited as a deterrent to greater local attendance. This is conservative thinking for 1975, but without a more detailed concept of exhibits and events, it would be unwise to count on repeated attendance of much of the local populace at higher admission charges.

Century 21 Exposition, Inc. (Seattle) obtained \$2.2 million from concession contracts. Visitor spending on the fair grounds was about \$68 million, of which \$4 million was spent at fair-operated exhibits and events. Century 21's revenue of \$2.2 million out of the remaining \$64 million spent is a very small share, but for good reason. Century 21 sacrificed income to retain exclusive control over concession operations. We think this is sound practice and have therefore used the same formula in determining fair management's share (3.5%) of spending on the fair grounds.



Visitors to other fairs have typically spent more on the grounds than Seattle's average of \$6.50 per person. We have chosen a conservative estimate of \$7.00 per person for 1975. Twenty million persons would thus spend \$140 million. Assuming that the 1975 corporation manages the same kinds of exhibits and events as did Century 21, \$4 million of this would be direct fair revenue. The fair's share of 3.5% of the remaining \$136 million would produce revenue of nearly \$5 million.

Exhibit space rental income in Seattle was \$2.9 million. The 74 acre site was the principal limiting factor. With between 200 and 300 acres available for exhibits at the major U.S. commemorative celebration of the century in 1975, one might expect at least 3 or 4 times Seattle's space rental income. This could easily be true despite some disenchantment with world's fairs on the part of U.S. business organizations. However, it is not appropriate at the moment to count on such demand for exhibit space. Also, we definitely expect some companies to participate in the celebration by servicing or equipping other parts of the site. Such participation would help absorb other costs but would yield no revenues to fair management.

We have therefore elected to allocate space for commercial/industrial exhibits on the basis of a pleasing overall site plan for 150 acres. (About one half of the total land of over 500 acres would actually be in use and the rest left as open recreation area.) Of the 150 acres in use we believe that a reasonable site plan would provide one third, or 50 acres, for commercial/industrial exhibits and the rest for the central theme complex, government exhibits, amusements, etc. We do not believe that there would be any difficulty in finding lessees for 50 acres. At an average rate of \$3.00 per foot (slightly higher than Seattle's, but less than 1964 New York rates), these 50 acres (about 2 million square feet) would yield about \$6 million rental income.

The \$2 million revenue in fees, royalties, etc. was derived from the experience of World's Fairs in the U.S. It stems mainly from the managing corporation's control of thematic emblems, and from fees for services rendered to exhibitors and concessionaires.

We have assumed recovery of the Corporation's investment of \$2.5 million in shell buildings for foreign pavilions through sale of these buildings after 1975. The cost estimate was for permanent construction. The buildings would be planned for permanent use, and we foresee no difficulty in selling them for business use -- stores, banks, etc. There is an additional safety factor in this assumption since we have not shown revenue from sale of the land these buildings occupy.



## Expenditures

Century 21's expenditures were divided between administration (75%) and construction (25%). Elimination of two completely unnecessary expenses reduces administration costs to 70%. With 1975 direct fair revenue estimated at \$45 million, such a division would provide about \$32 million for administration. For a one-year fair this is in line with estimates made recently by planners in Long Beach and Detroit. There is also justification for expecting about twice Seattle's costs for items such as insurance, staff on the grounds, public relations, etc.

This \$32 million exceeds actual costs (in 1963 dollar terms) for San Francisco in 1939. It is far below costs incurred in New York in both 1939 and 1964 but these levels of expenditures were unnecessary in our opinion. For example, the New York fair in 1939 had a payroll of about \$32 million (constant dollars), nearly twice Seattle's entire administrative costs that included some of its own exhibits and events, housing, insurance, guide books, programs, etc.

Eleven acres of space has been allocated for foreign pavilions. This would provide for the construction of 50 buildings or sections averaging 5,000 square feet. This is more than the space used in Seattle -- the only other type B fair in the U.S. It is a reasonable average since, if there are 50 foreign participants, many of them will be very small countries that desire only representation, not lavish exhibits. Furthermore, we believe that some countries will participate in other ways in lieu of, or in addition to, occupying a pavilion.

The construction cost for permanent shell buildings with utilities would be about \$10 per square foot.

We have next allocated \$5 million for site improvement. This covers general landscaping, lagoons, walks, benches, drinking fountains, statuary, decorative fountains and lighting, etc. The cost per acre of such installations was about \$34,000 in New York (1939) and \$43,000 in Chicago (1933) expressed in terms of 1965 dollars. Chicago's costs covered some rather unusual and unnecessary items. A World's Fair report for Long Beach showed \$36,000 per acre, also including some rather expansive ideas. We have estimated about \$35,000 per acre for nearly 150 acres -- a generous allowance for the present site development concept.

The estimates for administrative/support buildings and entrance/toll facilities are based on Seattle's experience and a Long Beach planning report. Requirements may expand a bit by 1975 but there will also be opportunities to gain contributions to some of the required facilities from government sources.



We have shown an allocation of \$1 million to an amphitheater simply as a reminder that facilities (probably both outdoor and indoor) are needed for performing arts and other events. There will then probably be additional costs beyond this \$1 million for such facilities but we believe that there will also be additional sources of funds from admissions, sale of the facilities after 1975, and aid from the city or state, neither of which have been counted on for major financial support elsewhere in this report.

The estimate of interest charges of \$5 million is based upon a rate of 6% and a typical World's Fair timetable of construction investment, advance ticket sale, leases, etc.

### C. CITIES

#### City of Boston

#### Revenue

Net annual contribution of property  
tax by 1980

Value of 100 acres of land	\$ 8,700,000	
Value of dwelling units	<u>100,000,000</u>	
	\$108,700,000	
Tax rate per \$1,000	<u>65</u>	
Total tax yield (approx.)	\$ 7,000,000	
Less 75% - community services	<u>5,250,000</u>	
Net gain in tax revenue		\$ 1,750,000
Other revenue sources (approx.)		<u>1,000,000</u>
		\$ 2,750,000

#### Costs

Authority administrative expenses (annual cost - over 10 year period)	\$ 100,000
Authority engineering expenses (annual for 2 years)	\$ 100,000

The estimated value of \$2.00 per foot (creating the \$8.7 million total) is explained under Authority revenue. At least half of the 200 acres to be sold would be within the present Boston city limits.





A preliminary B.R.A. estimate is that there could be 5,000 "dwelling units" of varying types on 100 acres (urban density). Investment or value per dwelling unit might average \$20,000, producing a total value of \$100 million.

We have obtained opinions from knowledgeable persons both within and outside A.D.L. as to a reasonable assumption for a 1975-1980 tax rate. We have found general agreement that there is no reason to expect the rate in the late 1970's to be much different from the current rate. (There has been some disagreement as to the likely annual movement of this rate between now and 1975 but this period of time is not relevant here.) We have used a \$65 tax per \$1,000 on an equalized or 100% evaluation base.

Reasoning has generally gone as follows. Boston's rate is presently at about its maximum. In fact, the city can probably keep it at its present high level only if tax rates in surrounding cities and towns rise; and the general belief is that they will, narrowing the gap between these other rates and Boston's. The city will need and find additional revenues over the next ten years in increases in real estate investment or valuation, in state aid through general sales or other taxes, and in Federal aid.

Unlike most other assumptions that we have made, we consider this use of a \$65 tax rate on full valuation to be the most realistic estimate that can be made at this time and not intentionally the conservative end of a range of probabilities.

We examined the 1963 City budget and conclude that a provision of 75% of property tax yield for community services is reasonable. It is that portion of tax yield that will probably be required for the new community's schools, public safety, public welfare, etc.

There remains a net gain of \$1,750,000 real property tax revenue to the City of Boston. There would be additional net contributions to "fixed" city government costs through fees, licenses and permits, motor vehicle excise and other taxes, grants from the state and Federal governments, etc. Based upon the present relation between various sources of City revenue, we believe that these other sources would add at least \$1 million annually -- some of which will begin to be generated during the construction period.

The total net annual yield to Boston would build up to nearly \$3 million over the 1976-1980 period. This is adequate incentive in our opinion for the City to assume a substantial role in bicentennial financial affairs.



There will certainly be a great number of ways in which the City could participate -- some quite important. However the only necessary roles within this feasibility analysis are to absorb the equivalent of Authority administrative costs (\$100,000 per year should be adequate with help from existing agencies), and finance early engineering studies that could amount to about \$200,000.

#### City of Quincy

Since nearly half of the residential construction could fall within Quincy's boundaries, and since the entire plan will enhance the City's property values and facilities in many ways, we assume that Quincy will make substantial contributions to the plan. As a minimum immediate effort we would expect Quincy to participate with Boston in assisting the developing authority. Other needs will probably follow such as facilitating access to the Squantum area, supporting extra parking accommodations, etc.

The general plan has not yet been presented to Quincy officials. We believe that it will be greeted with enthusiasm and should, of course, be presented as soon as possible.

#### D. CORPS OF ENGINEERS

##### Costs

Breakwater	\$ 507,000
Dredging (50% of total)	500,000
Approach Channel to Marina	(all)
Bulkhead	(probable share of cost unknown)
Dam and Locks	" " " " "

The breakwater and dredging costs are B.R.A. engineering estimates.

Respondents in the Corps of Engineers cited those elements of the development program that would normally fall within the scope of their activities.

The breakwater would probably qualify through protection of the island combined with creation of a public pleasure boating and recreation area. The Federal Government has recently expanded its scope of interest into purely recreational boating areas. Formerly it was extremely difficult to qualify such projects for Federal aid if they did not also have some other purpose such as creating shipping access.



Dredging of a channel inside the bulkhead and a marina at the end of it (southeast corner of the island) would probably qualify for 50% Federal support. The reasoning here is that clearly some portion of this project would be primarily for the benefit of the local community only. It must thus have some local financial support, and 50% is considered a reasonable estimate by Corps of Engineer personnel.

Dredging as required to widen and maintain a channel providing access to the marina area would be a completely appropriate undertaking for the Corps. Thus while we have no estimate of this possible cost, it will certainly be a minor addition to other dredging operations and not a burden to any local agency.

The bulkhead may qualify for some Federal support under prevention of erosion. However, Corps personnel consider this less likely than the other parts of the plan; and we have therefore left the bulkhead a local responsibility.

With the new interest of the Federal Government in facilities solely for pleasure boating, the dam and locks take on a more interesting aspect. (See NOTE below.) Clearly local agencies must bear some, and probably more than half, of the cost. It is almost just as clear, however, that some Federal funds would be made available. Just how much depends upon a type of Congressional legislation that is totally unpredictable. Since the dam is not absolutely vital to the entire plan (although it is certainly highly desirable) we have not pursued this subject further. P. 2

It should be noted in this regard that all Corps of Engineer projects over \$200,000 require Congressional approval. Therefore, Federal participation in the breakwater and dredging projects cited above is not assured but is reasonable to assume.

The Corps of Engineers would definitely undertake a study of the total development project. This would concentrate on marine-oriented aspects but would be a sort of test of the total public value created. This measure of value then becomes a basis for justifying a certain level of Federal participation.

In general we are quite encouraged by the response of local Corps of Engineers personnel. A full presentation of plans should be made to them as soon as possible. This may be sufficient to start the formation of a study project. At the same time, however, Massachusetts Members of Congress must initiate work on legislation.



NOTE: The entire question of a dam still depends in part upon a decision by Boston Edison Company. If a conventionally fueled power station is to be erected on Squantum requiring ocean shipping access, then the contemplated dam would require suitable locks which would almost surely put the dam beyond reach financially.

#### E. MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

We have discussed the general plan and rapid transit service possibilities with M.B.T.A. planners. They estimate that the cost of establishing service (via either of two access routes--across the dam or on-grade from the existing railroad spur in North Quincy) would be \$7-10 million. This would include the roadbed, terminal facilities and equipment.

In view of rough estimates of 1975 transit traffic and, more importantly, of the transit use by the buildup of a downtown-Boston-oriented residential community on Thompson Island, they believe that such an investment would be regarded with favor by the M.B.T.A.

#### F. METROPOLITAN DISTRICT COMMISSION

##### Costs

Dam and locks (Columbia Point to Thompson Island)	\$ 20,000,000
Roadway from Squantum to Island	\$ 5,950,000

The M.D.C. is supported by appropriations from the Massachusetts Legislature and, in turn, partly by the cities and towns concerned with M.D.C. properties. It is, therefore, impossible for M.D.C. officials to give very positive indications of the likelihood of the Commission undertaking specific future construction projects.

However, Commissioner Whitmore reacted very favorably to the plan. The recreational roadway is of the type with which the M.D.C. is normally involved. Furthermore, its cost does not merely improve existing transportation, it creates access where none exists and, therefore, enables the development of a permanent community, not merely a special event. We, therefore, believe that the M.D.C. will officially endorse the plan and that funds for the construction of the road will be made available.





The dam is less certain, but a probability in our opinion if the Boston Edison Company does not adopt plans that require ocean shipping access to its Squantum property. (See NOTE at end of Section VII-D - Corps of Engineers.)

Our optimism is based on three factors. First, a dam somewhere near the mouth of the Neponset River is a part of M.D.C. general planning within the next eight years. This dam would require lock systems for small boats anyway, as would the proposed dam in Dorchester Bay. The locks would be a substantial portion of the cost of either dam.

Second, the proposed dam would permanently inundate large areas of tidal flats and would create some 1200 acres of protected, permanent-level marine basin. It would therefore enhance property values in the area and could provide for the same sort of recreation as does the Charles River Basin. These improvements should encourage the support of Boston, Quincy, and the State Legislature.

Finally, the Corps of Engineers has expressed interest in the dam and spokesmen believe that Federal support through the Corps is possible.

As we have noted earlier, the dam is not vital to the Bicentennial plan. However, it would greatly enhance the general aspect of the area for 1975 and would be a major step in meeting future needs for recreation facilities in the Boston Metropolitan area.

#### G. STATE OF MASSACHUSETTS

##### Revenues

Excise or use taxes on visitor spending	\$ 15,750,000
Corporation profit and	(Estimates not yet available)
Personal income taxes resulting from	
- construction totalling at least	" " " "
\$100,000,000	
- visitor spending of \$280,000,000.	

##### Costs

Pavilion -- possibly main reception facility.  
Support of a wide variety of activities in transportation, promotion, visitor information services, etc.



## Revenues

### Excise Taxes

We have made an intentionally conservative estimate of direct state tax revenue from visitor spending in 1975 of nearly \$16 million.

We have derived this figure by assuming that 75% of visitor spending on and off the exposition site will yield an average 5% tax return to the state. This would mean:

$$75\% \times \$420 \text{ million} \times 5\% \text{ tax} = \$ 15,750,000$$

Our reasoning in making this assumption is as follows. Present taxes that would apply to substantial visitor spending are gasoline and cigarette taxes of about 20%, meal (costing \$1.00 or more) tax of 5%, and a liquor tax of about 6-8%. We then come to the question of further excise, use or sales taxes. It seems reasonable to assume two alternatives. First, if there is a general sales tax of about 3%, much more than 75% (perhaps 95%) of visitor spending will be affected by this plus existing special excise taxes. The net result will still be in the vicinity of \$16 million tax revenue. If there is no general sales tax, it is reasonable to predict special taxes of 5% on hotel and motel rooms and some other major segments of visitor spending. When these are combined with existing excise taxes, the net would be at least a 5% average tax applicable to 75% of visitor spending.

### Construction

Construction investment listed in Sections III and VI of this report total nearly \$100 million, not including the \$20 million dam. There will be additional construction of amusement facilities, the normal service facilities that spring up in areas surrounding World's Fairs, and many other small projects throughout the state.

### Visitor Spending

Many visitors to a bicentennial exposition in 1975 will spend additional time and money vacationing in New England -- beyond what is spent in the Metropolitan area. We believe that the area's natural attraction to vacationers plus probable special effort in terms of accommodations, travel facilities and special events, would combine to make 1975 a record year for tourism in New England. We suspect that the principal limitations to tourism in that year would be lodging and transportation capacity. It will therefore become practical to estimate total tourist spending only when general plans for housing, transportation and other measures take shape throughout the six-state area.



In this part of our report we are concerned only with visitor spending within the Boston Metropolitan area, but excluding the exposition site itself. Our intentionally conservative estimate of this spending is \$280 million. (This average of \$14 per day is at the low end of the range of data from U.S. World's Fairs.) It would be spent largely by the 5.5 million persons travelling over 50 miles to Boston. We have estimated that these visitors will visit the exposition an average of two times. We also believe that they will spend three nights in the area, using all or part of one day to visit historic sites and other points of interest.

Our projected breakdown of this spending is as follows:

	<u>%</u>	<u>\$ Million</u>
Lodging	25	70
Food and Beverages	30	84
Transportation	10	28
Entertainment	10	28
Other (clothing, services, etc.)	25	70

In arriving at these estimates we have first worked with tourist spending data to discover average relationships between spending for goods and services among the different categories. Such data must be modified, however, since visitors in 1975 will spend money on the exposition site as well as elsewhere for food, entertainment, etc.

We then applied some tests to the estimates derived. For example, we have estimated that of the 5.5 million visitors from over 50 miles away, about 50% will stay in hotels, rooming houses, motels or other commercial accommodations. We have also estimated that these 2.7 million persons will stay an average of three nights, producing a total lodging demand of 8.1 million bed-nights. The estimate above of \$70 million for lodging would then mean an average charge of about \$8.50 per bed-night for exposition visitors, not an unrealistic figure.

Average tourist expenditures for food and beverage divide into about 80% for food and 20% for beverages. Thus our estimate above includes about \$67 million spent for food. The following table presents our estimates of the demand for meals off the exposition site.



<u>Type of Visitor</u>	<u>Visitor/Days In Boston Area (millions)</u>	<u>Meals Purchased in Area (Off Exposition Site) (millions)</u>
Local	9.0	5.0
Travelling over 50 miles (but not staying overnight)	1.0	1.0
Visitors staying with friends		
-Days spent at exposition	4.4	4.4
-Days sightseeing	2.2	4.4
Visitors staying at hotels, etc.		
-Days spent at exposition	5.4	10.8
-Days sightseeing	2.7	8.1
		<hr/>
	Total Meals	33.7

Since some of the \$67 million spent for food will be for snacks between meals, the 33.7 million meals would then have an average cost of somewhat less than \$2.00, again a reasonable figure in our opinion.

The estimate of \$28 million spent for transportation (not including sightseeing tours) equals an average of about \$1.40 per day per visitor. We believe that this is a realistic average allowance for gas and oil, public transportation fares, and tolls.

An equal allowance for entertainment is derived from 10% of total spending -- close to averages shown by a number of surveys of convention-goers and tourists. We cannot suggest any better basis for estimating such spending until there exist more definite plans for daytime and evening entertainment both on and off the exposition site.

The remaining allowance of 25% for other spending is also close to tourist and convention survey results. These expenditures of \$70 million purchase clothing, gifts, drugs and sundries, laundry and cleaning, personal and professional services, etc.

#### Income Taxes

We have not yet traced construction and visitor spending through the Massachusetts economy and tax structure to forecast personal and corporate income tax yield. It should be done jointly with the research staff of the Massachusetts Department of Corporations and Taxation. This staff will have to devote considerable time to the project -- time that has not been available in recent weeks.





Fortunately, the general feasibility of the Bicentennial is quite clear without specific estimates of State revenue to justify necessary expenditures. It is sufficient to say that the State will benefit greatly from the entire program and should therefore make substantial contributions.

### Costs

Our current thinking is that the State should develop a complete picture of its probable revenues from the Bicentennial program and from this determine an appropriate level of total investment. (As one initial guideline the State of Washington put \$10.5 million into preparations for "Century 21" -- an event that had less than half the potential return of the 1975 Bicentennial.)

This level should prove considerably in excess of the specific requirements than can be identified long before 1970. These would include a pavilion, aid to access road construction, and other items.

During the 1970-1975 period there will then appear a number of requests for support from other agencies, as well as projects conceived at the state level itself. These projects will involve a broad spectrum of activities ranging from general programs to enhance the appearance of the city to support of special transportation services between focal points of visitor interest.

Some expenditures by the State will simply amount to advancing projects that would otherwise have been undertaken in subsequent years. Some will be redirection of normal activities such as the encouragement of tourism. Appropriations for the Montreal World's Fair serve as good examples. In many instances all levels of government in Canada are concentrating normal activities and appropriations of perhaps 10-20 years into a 3-5 year period leading into the Fair.

### Other States

Finally, there must be some consideration given to potential participation by the other New England states. Certainly many parts of New England will benefit from increased tourism -- a significant part of the economy of all six states. The degree to which they benefit will depend in part upon their participation within the exposition site -- the center of visitor interest. Possibly the main reception building could also depict places and events throughout New England -- 1775 and 1975. The cost might be shared by the other states in addition to, or in lieu of, separate pavilions. Such possibilities cannot be evaluated now but they may eventually serve to enhance the overall financing of the celebration.



## H. FEDERAL GOVERNMENT

The first consideration is that of a Federal pavilion. A conservative estimate of \$7 million for the building has been cited in Section VI.

The only other potential support from the Federal level that we have actually evaluated is that of Corps of Engineers activity discussed in Section VII-D.

There is not much point in further belaboring other possibilities of Federal appropriations for the Bicentennial. Common sense leads to the conclusion that there will be other Federal funds available and that total Federal support will probably be many times the \$10 million range that has applied to Seattle (1962), New York (1964) and apparently to Montreal (1967).



## APPENDIX A - TIMETABLE

The following is a rough approximation of the time requirements for the most pertinent actions in the development of the Thompson Island plan.

Construction of buildings	Spring 1973 to Spring 1975
Utilities, roads, some land-scaping	Spring 1971 to Spring 1973
Fill	Spring 1967 to Spring 1971
Breakwater, bulkhead and dredging - during fill operation	Probably 1969 and 1970
Purchase Thompson Island	By end of 1966
Basic engineering study - fill, breakwater, dredging	4 months during 1966
Presidential commission decision on site	July 1966
Option to buy Thompson Island	June 1966

Our purpose in presenting this is twofold. First it demonstrates the need for making contacts such as with Thompson Academy and the City of Quincy promptly.

More importantly, there is probably no such time pressure on planners in Philadelphia, and thus efforts to hasten the appointment of a Presidential Commission must probably come from Boston.



## APPENDIX B - ATTENDANCE

We estimate about 20 million admissions to a bicentennial site in the Boston area in 1975. This estimate is based upon a number of assumptions, principally:

1. There will be no major war or economic upheaval.
2. The New England plan receives Federal support and international approval.
3. There is a site of about 300 acres with adequate access by car and rapid transit, both offering ample low-cost parking.
4. Major exhibits and events are of high quality and unusual appeal. We estimate that this attendance will come from the following sources:

Local residents (within 50 miles)	9.0 million
Persons travelling from 50 to 300 miles	8.1 "
Persons travelling more than 300 miles	<u>3.0</u> "
	20.1 "

### Local Attendance

Estimates of the average number of visits of local residents to past world's fairs have varied:

<u>Event</u>	<u>Population Within 50 Miles</u>	<u>"Local" Admissions</u>	<u>Average Visits Per Person</u>
1939 New York	10 million	16 million	1.6
1964 New York	over 12 million	14 million	1.2
1962 Seattle	1.4 million	2.5 million	1.8

It is probably true that some part of the drop in average visits by New Yorkers from 1939 to 1964 is attributable to the fact that it is more difficult today to stimulate public interest in such an event. However, we feel that a combination of other factors has had greater effect -- including high admission and on-site service charges, some adverse publicity, and a lack of truly unique evening entertainment.





At the other extreme, Seattle's average of 1.8 visits probably could not be equalled. A world's fair and most of its events were totally new experiences for most local residents.

In our judgement, a reasonable expectation for 1975 would be an average of 1.5 visits per "local" resident. Population within a 50 mile radius of Boston (but including Springfield) was about 5.4 million in 1960. (Bureau of the Budget, 1960 Census Data) Extending the 1950-1960 growth curve, population in this area will be about 6 million in 1975. An average of 1.5 visits per person would yield 9 million admissions.

#### Persons Travelling 50 To 300 Miles

Calculating admissions sold to persons travelling between 50 and 300 miles to the fair as a per cent of total population in that geographic area, New York's admissions (9 million) in 1939 were about 35% (population of 25 million); Seattle's equalled 70% in 1962. A planning group in Long Beach estimated 50% for 1967.

With the present "world's fair" in New York and a truly international event in Montreal in 1967, whatever might be done in Boston in 1975 will not be a completely new opportunity for residents in northeastern United States. We have thus elected to make a conservative estimate of admissions equalling 30% of the population between 50 and 300 miles distant. (Visitors will probably average two admissions to the site, and this means that we have actually forecast that 15% of the people in the region will attend. We do not consider this too high for a well-managed bicentennial.)

1960 census figures show 24.6 million residents in this 50-300 mile radius of Boston. Extension of the 1950-1960 growth rate places 1975 population at about 27 million. Admissions of 30% would be 8.1 million.

#### Persons Travelling More Than 300 Miles

Visitors from more than 300 miles have never accounted for a major share of attendance at a world's fair in the U.S. In 1939 New York drew nearly 6.5 million admissions from such visitors but the current New York fair must certainly have fallen far short of that. A group in Detroit making plans for 1972 estimated 3 million admissions from this category. Seattle exceeded that figure, with an estimated 4.5 million tickets sold to 2 million visitors from more than 300 miles away.



In view of the impact of the current New York fair on a substantial portion of the northeastern U.S. population, and the fact that many will attend the Montreal event in 1967, we are inclined to adopt a conservative view and estimate 3 million admissions from 1.5 million visitors. Though equal to Detroit's estimate, we consider this conservative for Boston because the 1975 event is the nation's bicentennial, while Detroit's would simply be another city's fair. We would expect a great many more foreign visitors to the Bicentennial in Boston than to World's Fairs in Detroit or Seattle.



## APPENDIX C - EMPLOYMENT

Employment directly connected to World's Fairs affects a very broad spectrum of workers and extends over a considerable period of time. It is appropriate to discuss separately the two periods of heaviest employment -- construction and operation.

The intensive construction phase will last about three years. (There will, of course, be earlier periods of work on land preparation, transportation, etc. that are related to the fair.) We believe that employment would average at least 6,000 during this intensive period. Seattle's construction employment peaked at 6,000 and probably averaged about 3,000 for a shorter period than three years. However, the fair grounds covered only 74 acres and several structures already existed. The preliminary plan for Boston involves about 150 central acres plus several adjacent and off-site construction projects.

During this period the largest groups will be in the building and construction trades. There will, of course, be extensive demand for Longshoremens and Teamsters. Payrolls will also include draftsmen, clerks, communications workers, decorators, guards, etc.

During the six months of operation employment should average about 8,000. Seattle's averaged between 5,000 and 6,000 and peaked at 8,000. This employment covers many different groups including grounds and building maintenance, electricians, plumbers, guards, musicians, stagehands, restaurant workers, clerks, etc.

We have not attempted to estimate the effect of the many years of activity on employment in supporting businesses. One can assume however that very few parts of the Greater Boston economy would be unaffected.

It is also worth noting that the present general plan for Boston calls for extended construction after the six months operation. New residential areas and supporting facilities would be built involving not only construction workers, but also the variety of labor and services required by any community.



#### APPENDIX D - TYPE OF FAIR

We have recommended a "Class B" fair, using the terminology that has appeared in various releases and publications in the U.S. The International Bureau of Expositions' (B.I.E.) formal classification would be a "General Exposition of the second category".

The B.I.E. defines special exhibitions as "those which deal with only one particular technique, raw material or basic need". Clearly the 1975 Bicentennial would be a general exhibition. Then the question becomes which category is preferable. There appears to be no schedule conflict for either first or second category. B.I.E.-approved fairs of either category are limited to six month's duration.

The difference between the two is clarified in the B.I.E. regulations:

"General Exhibitions of the first category in which the invited countries are responsible for the erection of their own pavilions."

"General Exhibitions of the second category in which no country has the option to construct or build a pavilion."

To the host, the advantage of the first category is that foreign governments erect their own exhibit buildings. In the second category this cost is borne by the host as it was in Seattle. (In neither instance does a foreign nation pay any rental fee.)

The advantage to the host of the second category is in greater control of the fair's overall architecture, and the ability to retain the foreign exhibit pavilions. In the first category, foreign pavilions must be removed by the countries involved within six months after the fair closes.

Seattle's successful fair was of the second category. Foreign participation ran very smoothly and contributed greatly to the fair's appeal. The pavilions provided were modest but are mostly still in use for shops, travel offices. etc.





To us, however, the most significant argument in favor of a second category exhibition is its much greater appeal to most foreign countries. We are advised by Mr. Gandy (President of Seattle's "Century 21") and Mr. William Phillips (World's Fair consultant in Paris) that many countries object to the structural competition among foreign pavilions in first category expositions. Since B.I.E. approval does not commit its members to exhibit, we believe that a second category even will have broader international participation.

Finally, we are almost convinced that only a second category exhibition will be considered by the Federal Government as an appropriate vehicle for commemorating the nation's birth under freedom and equality. Participation must appeal to small and large nations alike, and this is not the case with first category exhibitions.

We have already noted possibilities of a variety of methods of participation in 1975. We believe that foreign governments might elect to participate in one of three ways:

1. Complete use of pavilion space allocated.
2. Participation only in events (athletic, performing arts, etc.)
3. A combination of the above.

Thus we believe that, while a greater number of nations will participate than did in Seattle, the total foreign pavilion space requirement may not be greater than Seattle's. In any event, the site plan is flexible enough to accommodate full pavilions for all nations.

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